PATENT CLAIMS

1. A method for the protection of an electric power transmission network, where local protection functions are implemented by a plurality of local protection devices (3,3a,3b,3b',3c) located at a plurality of locations throughout the network,

   characterized in that the method comprises the steps of

   - measuring phasor data for voltages and currents at a plurality of locations (A,B) of the network,
   - transmitting said phasor data to a central processing device (2),
   - emulating, in the central processing device (2), protection functions that are implemented in the local protection devices (3,3a,3b,3b',3c), and
   - executing, in accordance with a given redundancy strategy, control commands that are issued redundantly by the local protection devices (3,3a,3b,3b',3c) and by the central processing device (2).

2. Method according to claim 1, wherein a protection function emulated in the central processing device (2) is one of a differential protection function, a phase comparison function, an overcurrent detection function, or a thermal overload detection function.

3. Method according to claim 1, wherein a protection function emulated in the central processing (2) device is a distance protection function.

4. Method according to one of the claims 1 to 3, comprising the step of
   - adapting values of predetermined parameters that are used in the protection function in accordance with measured phasor values.

5. Method according to claim 4, wherein the predetermined parameters are impedances of lines or equivalent circuits.

6. Method according to claim 4, wherein the predetermined parameters are limit values that, when exceeded, cause protective action to be taken.

7. Method according to claim 6, comprising the steps of
   - computing, from measured phasor values, a stability measure of the network, and
   - adapting limit values in accordance with said stability measure.

8. Method according to claim 4 with reference to claim 3, wherein the distance protection function for a power line linking a first bus (A) of the network to a second bus (B) of the network comprises at least one of the steps of

- determining, an equivalent representation of the network as observed at the first bus (A), and
- determining an equivalent representation of the network as observed at the second bus (B),

and the step of

- computing a distance protection algorithm that incorporates at least one of the equivalent representations of the network as observed at the first or second bus, respectively.

9. Computer program for the protection of an electric power transmission network which is loadable and executable on a data processing unit and which computer program, when being executed, performs the steps according to one of the preceding claims.

10. Data processing system for the protection of an electric power transmission network comprising means for carrying out the steps of the method according to any one of the claims 1 to 8.